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STUDY
PROJECT

EVOLUTION OF LOGISTICS:
SUPPORTING NATO'S MULTINATIONAL CORPS

BY

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EVOLUTION OF LOGISTICS:
SUPPORTING NATO'S MULTINATIONAL CORPS
AN INDIVIDUAL STUDY PROJECT

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ABSTRACT

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Coalition warfare is the accepted norm of the twentieth century, but coalition logistics is frowned upon as a distasteful by-product of multinational cooperation. It wasn't until the supply situation of the British during World War I became serious that coordination was made with the French "to secure adequate guns and ammunition." During World War II and Korea, the industrial base in the United States was so productive that American materiel supplied to its allies directly influenced the outcome of the wars. The Americans wished to maintain their predominance in the international trade of military materiel--hoping to achieve economic and political advantages--but the resurgent economies in Western Europe were able to produce the major items of military equipment which were needed. The European perspective of defense, focused towards the Warsaw Pact, generated logistical support systems which ran west from the mother country, to the east where the forward deployed units were located. American defense was more broad-based considering its worldwide responsibilities. With the recent demise of the Warsaw Pact and the reduced threat, NATO wishes to field multinational corps which will somehow overcome the dichotomy of nonstandard equipment and support systems. A review of the logistical posture of NATO and an accumulation of opinions from respected military logisticians leads the author to conclude that the multinational corps can be logically sustained in combat if, and only if, the key recommendations contained herein are adopted.

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CHAPTER I

INTRODUCTION

In this century, coalition warfare has been the predominant method by which major nations have fought their enemies. Nations can no longer rely on internal resources to sustain their war effort; enemies are likely to form alliances to gain the necessary moral, financial, personnel, and materiel support in quantities so large as to defy comparison in modern times.

The national or multinational organizations formed to coordinate and control the support efforts of the coalition partners require herculean understanding, patience, flexibility, and resolve. Their success is oftentimes inhibited not by lack of effort but rather by the subtle bureaucratic intransigence and entrenched beliefs in outdated procedures. This is especially true when military or political conditions require further change after the basic procedures have reached some measure of international acceptance.

NATO is currently undergoing substantial changes precipitated by the reduced threat from the former Warsaw Pact. NATO multinational corps, a novel approach to Alliance defense, is one of the changes advocated in the London Declaration of 1990. The corps will consist of highly mobile national divisions capable of confronting a threat anywhere within the NATO environment. NATO relies on its brigade-sized multinational ACE Mobile Force to meet its rapid deployment requirements, and the identification of multinational corps to help fulfill this role.

presents both political and military advantages. One of the major problems, albeit not the only problem, is the corps' combat sustainability. The "layer cake" alignment now evident, with logistical bases reasonably available, would disappear in favor of quick reaction corps ready to deploy throughout NATO--potentially to locations where logistical support must move over long air, sea, and land lines of communications. Under these circumstances, NATO must change its logistic support concept.

It is easy to agree that change is required. The difficulty is to identify the necessary changes and subsequently to gain Alliance consensus. This will require a massive effort from a myriad of NATO staff elements.

This paper directly confronts the multinational corps logistic sustainment issue by addressing a basic but predominant question: Can NATO logistically support the corps under the current NATO doctrine and procedures? The paper limits itself to basic logistic issues and makes recommendations without regard to political acceptability. Additionally, the paper is limited for reasons of time and scope to a cursory description of such complex subjects as standardization, rationalization, and interoperability (SRI), role and functions of NATO logistic committees, infrastructure planning, etc. The paper is structured to offer appropriate background information and to consolidate in a concise format the large amount of logistical data which is necessary to answer the basic question.

To determine which information and data is needed to reach a reasonable and logical conclusion is a matter of individual

judgement. Sufficient for this study is a historical analysis of three major wars in this century, the generally accepted principles of military logistics, and the opinions of reputable logistic staff officers throughout NATO.

Hopefully, the paper will serve those in NATO who are developing logistic systems in support of the proposed multi-national corps, and will be a primer for those wishing to use the lessons of history in order to avoid the pitfalls of the future.

CHAPTER II
COALITION LOGISTICS:
ITS EVOLUTION AND SIGNIFICANCE IN MODERN WARFARE

World War I

The British and French realized that some coordination between their respective forces was required prior to the outbreak of hostilities. Nevertheless, it wasn't until the supply situation of the British became perilous, largely attributable to the intense submarine warfare against her, that serious coordination was made "to secure adequate guns and ammunition." The initial meetings between the British Minister of Supply and the French Minister of Munitions were probably the first step in modern times at solving logistical problems at the top.¹

Initially, several attempts were made to harmonize the logistic efforts with the main problem being the leadership role and nationality of the future allied chief of logistics. Eventually, the British-French Munitions Council was formed to coordinate the pooling of common use items (ammunition, petroleum products, and food.)² Problems remained, however, even in such elementary areas as rations. The British ration scale, for instance, was twice that of the French and Italians; later, the Americans demanded twice the scale of the British.³

Soon after the United States became a belligerent (April 1917-November 1918), a "Supreme War Council" was established to coordinate the strategy of the Western coalition. Partic-

ipants included the United States, Britain, France, and Italy.

A Military Board of Allied Supply was formed to coordinate supply matters,⁴ and an "Interallied Ordnance Agreement" was formalized to take advantage of America's huge war production capability.

Initially, the European allies had to provide the bulk of America's war equipment in consideration of the American lack of preparedness. For instance, the French provided nearly all of the artillery used by the American Expeditionary Force (AEF), and over 2,600 howitzers and caissons before American manufacturers could fill the requirement. Great Britain provided over half the trench mortars while the AEF tank and aerial forces were entirely dependent upon French and British equipment.⁵ Although animals still carried most materiel to the battlefields of France, the United States did contribute about 8,000 trucks, complete with drivers and mechanics, for a large international motor pool to move the strategic reserve.⁶ Unfortunately, the AEF used no less than 200 different types, models, or brands of trucks in the early days of the war, but eventually whittled down the number of types to approximately a dozen.⁷

By the time the American industrial base got cranked up, the war was over. In its nineteen months of war, however, about twenty ordnance manufacturing plants had grown to almost 8,000. The two largest smokeless powder plants in the world were built, two and a half million rifles were made, and aircraft engine daily production exceeded that of England and France combined.⁸

Germany and her co-belligerents had similar problems in the logistical field. Nevertheless, there was greater central

direction in their efforts, and German munitions were generally used to reinforce her allies.⁹

World War II

Having learned from World War I, cooperation between the Allies and the United States started prior to the U.S. entry into the conflict. In November 1939, the U.S. Congress revised the Neutrality Acts and specified that the European belligerents could purchase U.S. military goods if they transported the goods in their own vessels. By June 1940, the War Department began to release surplus or obsolete war materiel to Great Britain, and in September the President exchanged 50 old destroyers for rights to use some British possessions for American military bases. In the fall of 1940, American and British officers worked together as a Joint Aircraft Committee, planning both the standardization and international allocation of U.S.-manufactured warplanes.¹⁰ By March 1941, Congress passed the Lend Lease Act.¹¹

To safeguard the Atlantic sea lines of communication (SLOC), Denmark allowed the United States to build bases in Greenland. Soon afterwards, Iceland allowed the stationing of U.S. forces in their country. By the end of 1941, 6,000 U.S. soldiers were stationed in the former, 687 soldiers in the latter.¹²

Similar to the situation in the First World War, ocean transportation was a major problem, particularly to the European theater. Not only was war materiel sent to England--and from June 1944, to France--but also mountains of civilian goods were

shipped for the subsistence of the British population. Early on, German submarines sunk ten million more gross tons of ships than were being constructed. Allied success was eventually obtained through the use of the convoy system, using vessels of neutral nations, destruction of German submarines, and finally, a powerful shipbuilding program. In the Pacific, ships were not used to supply large civilian needs, and, by contrast, allied submarines during the war sunk over twice as much Japanese merchant shipping than could be replaced (4.8 million tons versus 2.3).¹³

American materiel played a crucial role in rearming the French Expeditionary Corps (FEC) in 1943 and 1944. The 105,000 officers and men, including contingents from the North African colonies, "were fighting splendidly with our American materiel," wrote General Clark in May 1944, in reference to the French breakthrough of the Gustav Line in Italy. A month later, the French 2d Armored Division, re-equipped under the North Africa Program, participated in the Normandy invasion under the Third U.S. Army. In August, six of the American equipped French divisions under the U.S. Seventh Army landed on the French Mediterranean coast and drove inland. In both Italy and Southern France, the French forces received the bulk of their supplies and maintenance support from the U.S. Army and augmented the operation with French service units and supply officers whenever possible. In November, a Southern Line of Communications (SOLOC) was established to control the entire American supply system in Southern France. The Commander of the French Support Base 901

was placed under SOLOC as a deputy commander and French officers were fully integrated into the SOLOC staff under the control of their U.S. contemporaries.¹⁴

Base 901 played a dual role. Working independently from the U.S. and dealing solely with the French High Command, it distributed supplies obtained from French stocks, mainly from North Africa. With respect to supplies of American origin, including rations, it assisted U.S. supply organizations in effecting distribution to French units. This integration of logistical efforts shows that forces can be sustained by others and fight effectively over a prolonged period.

By April 1945, major stresses were apparent between the Allies. The French refusal to withdraw from Stuttgart in the north and back to the French border from Italy in the south caused Eisenhower to restrict the provisioning of French forces. Intense diplomatic activity ensued, but the end of the war in May allowed the Americans to finally phase out the program, which officially ended in March 1946.

The movement of materiel on European soil was, unlike World War I, almost entirely motorized. The exception was Italy, where the Allies used over 4,000 pack animals.¹⁵

The implications of logistic shortfalls could best be highlighted during the invasion of Europe at Normandy in June 1944. In the first seven weeks of the campaign, the Allies were confined to a shallow Normandy beachhead. The subsequent destruction of the German Seventh Army and the extraordinarily rapid breakout from the Falaise-Argentan pocket, however, allowed

the Allied forces to reach the Seine eleven days ahead of schedule, at D-79 rather than the planned D-90. The decision was then made to cross the Seine, encircle Paris, and continue the pursuit without pause. By this time, the Allies had fourty-six divisions on the Continent and enjoyed definite superiority in armor, infantry, and air power. It appeared that the Allies could move in almost any direction against a weakened enemy.

The logisticians realized that the decision to cross the Seine and continue the pursuit, and to augment the committed forces, constituted a radical departure from the plans. Motor and rail transport were deficient and air supply failed to match its predicted capacity. In fact, motor transport was unable to deliver the daily maintenance needs, to say nothing of stocking intermediate or advance supply depots. In addition, service troop units could not handle the increased workload on an extended line of communication ahead of schedule. When the tempo of operations accelerated in August, requiring the leap-frogging of depots and dumps and a high degree of mobility for supply stocks, available depot units were unequal to the task.

Following the breakout from Normandy, the Allies made a grueling run across northern France without regard to adequate vehicle maintenance. Forward reserves of major items and spare parts were practically nonexistent. Without an adequate depot system, the bulk of supplies were still in the Normandy base area. And to make matters worse, the capture of the Brittany ports, with a planned discharge capacity of 14,000 tons per day by D-90, were still in German hands, with the exception of

St. Malo. Those ports which were in Allied hands were discharging 35,000 tons daily, but that was not enough to clear the hundred Liberty ships waiting to offload. The sixteen truck companies assigned to clear the ports were simply inadequate.¹⁶ In September, three divisions had been immobilized and their motor transport used to form provisional truck companies. By now, the Supreme Headquarters realized that a deep thrust into Germany could not be attempted without additional logistic capability. The drive came to a halt as Allied armies, facing a reorganized and reinforced enemy, were basically held in place until February 1945.¹⁷

Both air and ground transport systems lacked the planning and coordination necessary to adequately support the Allied force. One expedient was the Red Ball Express. These 5,400 trucks operated from 25 August until 16 November on a 924 mile round trip from beaches and ports to as far forward as Paris. The difficulties of vehicle control, maintenance, highway regulation, terminal shipping and receiving coordination and cargo documentation were balanced by the fact that over 400,000 tons of supplies were moved. Another service, the Little Red Ball, using one truck company, was designed to deliver only high priority items straight from the port to the front lines.¹⁸ In addition, about 250,000 railroad cars and 11,500 locomotives were used by the Allies in Europe to move cargo.¹⁹

By December, the two most serious logistics problems were (1) shortages of ammunition, tanks, tires, general purpose vehicles and field wire, and (2) inability of the forward areas

to handle the large tonnages now moving forward by truck, rail and air transport. The first problem was solved by the fastidious ship loading, unloading, and subsequent highway movement of priority cargo via the Rapid Express Service (REX). By January, the REX and its complementary express rail service, the "Toot Sweet Express", were operational. In addition, the American accountability systems in Europe were required by April 1945 to standardize its entire requisitioning procedure in order to gain better visibility of supplies really required.

Regarding the second problem, it became evident that depots were not properly echeloned in depth. The decision had been made to move as much materiel as possible from the ports to the front line in order to exploit the Allied advance. With no intermediate depots, a disproportionate amount of supplies were in rear (base) and forward areas. The former were simply huge dumps with no facilities for segregation, classification, or selectivity for forward movement. Centralized movements planning also failed to match the available transportation assets with the base area shipment requirements.²¹

Organizationally, the control of the logistical functions in the theater was vague. The Communications Zone (COMZ) in Europe was under the Supreme Headquarters, Allied Expeditionary Force (SHAEF).²² Since General Eisenhower, as an American, was the SHAEF Commander with influential and high-ranking U.S. officers, many decisions regarding U.S. logistic matters were made at SHAEF rather than the COMZ. Field commanders wanted the COMZ to act only as a freight-handling agency and decisions

of priorities and apportionment of service troops were left to SHAEF. Since SHAEF could not provide detailed guidance, no theater headquarters existed which could properly enforce a uniform logistic policy. Recommended at the time was the idea to integrate all theater logistic matters into one logistic headquarters led by a deputy theater commander senior to ground force commanders.²³ Before this was implemented, however, the war was over.

Prior to and during World War II, it was the United States which provided to its allies massive quantities of materiel. As early as June 1940, America transferred about 750,000 rifles, pistols, and machine guns. This provisioning swelled until, under the Lend Lease Act, over \$31 billion in aid went to the British Empire, \$11 billion to the U.S.S.R., and \$3.23 billion to France. Included in this were 39,000 planes to Great Britain alone. In the "reverse lend-lease" arrangements, recipient countries provided the U.S. forces food, housing, transportation, training facilities, etc. This was particularly true for the U.S. forces in England during the war.²⁴

The opponents of the Allies also had major logistics problems. The Germans, for instance, used over 2,000 types of vehicles requiring over a million different types of spare parts, and during the invasion of Russia, spare parts were almost impossible to obtain.²⁵ This diversity of motor transport often-times required the Germans to depend upon captured vehicles to meet their own mobility needs.

The nightmare of Axis logistic problems is evident when one

considers the North African campaign. There, over extended land lines of communications (LOC), the Allied and Axis armies attacked each other in turn until their momentum was exhausted. They then retreated to avoid annihilation. In just over two years, Rommel marched twice the 1,500 miles east into Egypt, and twice fled 1,500 miles west, with the British doing the same thing in reverse.²⁶ The British believed in a supply build-up prior to executing an operation, but Rommel virtually lived hand to mouth. His primary concept of logistical support was to capture British booty to sustain his efforts.²⁷ In fact, some captured supply dumps were so enormous that he couldn't use or destroy everything, such as at Benghazi and Tobruk.²⁸

Although the bulk of the supplies for the Afrika Korps were German in origin, the LOC's through which German supplies had to move were Italian. Base services, depot supply, and higher echelon maintenance were also Italian, although equipment and ammunition were not standard.²⁹ Every single ton which was consumed by the Axis had to be laboriously crated in Italy, then shipped across the Mediterranean. After February 1941, only Tripoli was suitable as a water port of debarkation and the front was 300 miles east. Since no railroad existed to support Rommel and coastal shipping was inadequate, at least 1170 two ton trucks were needed to sustain his 5th Light Division. With the introduction of the second German division, the truck requirements, of course, increased. The imminent invasion of Russia further limited the number of trucks which could be spared for Africa. And when one adds the five Italian divisions

plus air and naval units, 70,000 tons a month were required by the Axis forces--clearly more than Tripoli or the Italians could handle. In Rommel's eyes, the Italians were simply non-supportive. Considering the extraordinarily dangerous SLOCs, the overextended forces, port limitations and inadequate coastal movement, it is reasonable to believe that the Italians could not have done better.³⁰ Overall, when one compares the tactical skills and logistical posture of the combatants, one must conclude that the sound logistic principles and somewhat flexible doctrine used by the Allies were important keys to their final victory. On the other side, the lack of logistic coordination and equipment standardization helped contribute to the Axis defeat.

Korean War

The world was totally surprised when the military forces of the Democratic People's Republic of Korea moved southward across the 38th Parallel in June 1950. By the end of that month, the United Nations (UN) Security Council passed a resolution urging UN members to provide military assistance to South Korea. By that time Seoul had been captured and the North Koreans were well on their way towards eliminating all opposition except those forces entrenching around the port of Pusan on the southeastern corner of the peninsula. Eighteen nations eventually responded to the UN request, and most of them looked towards the United States to fill their army's logistic void. These nations, ten of which are in NATO, and their troop population as of

31 July 1953, were:

British Commonwealth:			United Kingdom	--	14,198
			Canada	--	6,146
			India**	--	70
			Australia	--	2,282
			New Zealand	--	1,389
Turkey	--	5,455	Belgium*	--	944
Columbia	--	1,068	Ethiopia	--	1,271
France	--	1,119	Greece	--	1,263
Korea	--	590,911	Netherlands	--	819
Philippines	--	1,294	Thailand	--	1,294
Italy**	--	72	Norway***	--	105
Sweden**	--	154	United States	--	302,483

* Includes Luxembourg detachment of about 44 men

** Noncombat medical units only

*** Mobile Advanced Surgical Hospital in support of 32
US I Corps and the British Commonwealth Division

Initially, the United States was simply unprepared to support themselves or anybody else. An "ad hoc" logistic command was quickly organized at Pusan and within a few weeks was fully manned and operational.³³ Later, as supply lines lengthened, an army service area and forward supply points were organized. A communications zone was eventually established, albeit late, in July 1952, and extended over the southern two-thirds of the Republic of Korea. Through Pusan ran three different supply lines: One for the U.S., one for the British Commonwealth, and one for the Koreans. The U.S. Logistical Command in Pusan supported the United States and the majority of the UN forces. It also provided the Commonwealth forces with perishable foods and petroleum products, and the ROK forces with war materiel.³⁴

The forces of each nation arrived in Korea in different

states of combat readiness. The British Commonwealth troops were well trained and equipped, and soon set up their own supply lines. Most of the other contingents, however, needed be equipped, trained and oriented. In August 1950, the UN Reception Center at Taegu was organized to receive, equip, and generally prepare these forces for combat. US equipment was used to the maximum extent possible to insure standardization. When contingents were judged ready, they were usually attached to U.S. outfits, i.e., the battalions to U.S. regiments and the brigades to U.S. divisions. The British Commonwealth forces were formed into brigades and attached to the U.S. I Corps. The parent unit provided administrative, logistical, and operational support and guidance.³⁵

The UN command, namely the United States, wanted all UN forces to arrive in Korea fully trained and accompanied with its own integrated artillery, administrative support, and logistic systems. While this would have relieved the U.S. units of much of their responsibilities to other forces, the hopes of an early armistice precluded the activation of this plan.³⁶ An exception was Turkey. Equipment, materiel, and training were provided by Americans in Turkey prior to the first Turkish deployments.³⁷

Customs and traditions played a noticeable role in this international army. Turks, for instance, would not eat pork, a common ingredient of U.S. "C" rations, since they are Moslems; moreover, the Indians, who were Hindu, would not eat beef. The French, Dutch, and Belgians favored more bread and potatoes

than the Americans while the Thailanders wanted more rice and hot sauces. Japan was used to procure an oriental type of "C" ration catered especially for the Korean palate.³⁸ Eventually, each nation secured satisfactory rations after a good deal of improvisation and juggling of food stores.³⁹ In one effort, the U.S. Quartermaster failed when it delivered, at great expense and effort, live lambs to the Greek contingent for a religious rite. The lambs were not entirely suitable since they should all have been female.⁴⁰

For the supplies, equipment, and services for most of the UN contingents, the United States expected eventually to be reimbursed. During the conflict, monthly reports were given to the UN units by the U.S. command, although final settlement rested with the political and military leaders in Washington after the war.⁴¹

Japan was used extensively for supply depot services, equipment rebuild facilities, and troop hospitalization.⁴² It has been estimated that if all supply and service functions in the UNC were carried out without the use of Japanese workers, an additional 200,000 to 250,000 service troops would have been required. The use of civilian labor in Korea, while much less efficient, was hardly less significant. Considering all areas, about 158,000 Koreans were employed by the UNC. Care had to be taken to ensure that UN contingents could properly procure, train, organize, control, assign, and generally administer to so large an indigenous workforce.⁴³

Some of the major logistical problems of World War II were

repeated in Korea. Take port clearance for example: Pusan, the main port, had 28 deep water berths and ramps suitable for the unloading of ships. However, there were inadequate transportation assets to move the discharged materiel forward. Trucks were inhibited by a poor network of highways subject to flooding; rail was not a viable substitute since the 250-mile single track rail line from Pusan to Seoul was short tank cars, gondolas, flat cars and box cars. Dock workers at Pusan were available on good days, but on a cold, rainy day, perhaps only ten percent of the normal workforce would report to work. Fortunately, the provision of a hot meal to augment wages was sufficient incentive to gain the necessary stevedoring services.⁴⁴

Maintaining equipment was a problem from the beginning. The strain placed on vehicles by their intensive use over poor roads and mountainous terrain was soon evident. Much of the trouble seemed to be the lack of well trained mechanics rather than defects in the equipment itself. Many of the types of vehicles failing had held up under strenuous combat conditions in World War II.⁴⁵

Helicopters were mainly devoted to the evacuation of casualties and were not generally available in large numbers to transport supplies.⁴⁶ There were exceptions, most notably the emergency resupply of 250,000 pounds of materiel from the U.S. X Corps to the attached ROK 5th Division by twelve U.S. H-19 helicopters during intense combat on 15 June 1953.⁴⁷

Fixed wing aircraft were valuable for the emergency delivery

of specific items of equipment and supplies; aircraft were used extensively to support elements of the 1st Marine and 7th Infantry Divisions isolated in the Chosin Reservoir area in late 1950.⁴⁸

It was indeed fortunate that the enemies of the United Nations never destroyed the port of Pusan. It was the primary port and depot area for UNC forces in Korea and its destruction would have virtually paralyzed the UN military effort. Everyone seemed to recognize the danger but the lack of suitable facilities and transportation lines elsewhere prohibited an alternate or redundant site.

LESSONS LEARNED: The most important logistic lessons learned from these wars are listed below. Along with contemporary data accumulated at various NATO headquarters, they form an important basis for the recommendations contained in this paper to enhance the logistics posture of the proposed NATO multinational corps.

1. The commander's understanding and personal dedication to the success of a multinational unit is paramount to success.
2. One nation's fighting force can be supported effectively by the logistic system of another nation without significantly degrading combat capability.
3. A centralized logistic command and an integrated headquarters must be functional and exercised before the outbreak of hostilities to ensure familiarity of procedures and perfection of the support plan.
4. Standardization of weapons, equipment, and procedures

is an enormous advantage in coalition warfare and substantially enhances, although not guarantees, the probability of success.

5. Adequate ports, plus ground and air transport assets are essential.

6. Movement control for motor, rail and air transport assets, plus traffic regulation on highway nets, must be centralized at the highest level possible and enforced in accordance with the priorities of the commander.

7. Overextended forces without adequate lines of communication cannot be adequately supported.

8. Host Nation Support (HNS) is a logistics multiplier and must be programmed and resourced.

9. Customary food is a major morale factor and must be considered in providing for an integrated force.

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CHAPTER III

NATO: LAND FORCES AND LOGISTIC ENVIRONMENT

Organization

The communist attack on South Korea had a profound effect on the evolution of the fourteen month old NATO. In recognition of the initial North Korean successes, NATO decided to defend as far forward as possible. General Eisenhower was appointed as the Supreme Allied Commander Europe (SACEUR) overseeing an integrated force supported by an international staff.¹

Since that time, the organization and alignment of forward deployed land forces evolved into the following arrangement:²

1. Under SACEUR are Allied Forces Central, Southern and Northern Europe (AFCENT, AFSOUTH and AFNORTH), plus the Allied Command Europe Mobile Force (AMF). Since the main enemy attack was expected to be in AFCENT (Germany), NATO's main focus was in that sector.

2. AFCENT consists of the Northern (NORTHAG) and Central (CENTAG) Army Groups further subdivided into eight national corps. These corps are positioned in a "layer cake" alignment north to south as follows:

- | | | |
|------------------------|---|---------|
| a. Netherlands I Corps | - | NORTHAG |
| b. German I Corps | - | NORTHAG |
| c. British I Corps | - | NORTHAG |
| d. Belgian I Corps | - | NORTHAG |
| e. German III Corps | - | CENTAG |
| f. U.S. V Corps | - | CENTAG |
| g. U.S. VII Corps | - | CENTAG |
| h. German II Corps | - | CENTAG |

The strategy of forward defense was changed in 1967 for one which dictates a flexible and balanced range of responses to all levels of aggression. The "flexible response" doctrine, which is still current, calls for NATO to meet a conventional threat with conventional forces, but the first use of nuclear weapons is not ruled out.³

National Corps Organization and Missions

Although NATO multinational corps will be unique in their task organization, they will still perform "corps type" missions and require "corps type" combat service support (CSS). An explanation of the complexity of these type missions and corresponding CSS functions is vital to understand the requirements and associated deficiencies evident for the proposed NATO organization. The following paragraphs describe a U.S. corps, but this is considered representative for the purpose of this paper.⁴

A corps is the largest tactical unit which maneuvers at the operational level. A corps plans and conducts major operations and battles with a sized force tailored for the theater and the mission. It consists of several divisions and supporting elements. The latter are battalion or brigade sized and organized into the following functional areas:

1. NONDIVISIONAL: Armored Cavalry, Field Artillery, Engineer, Air Defense Artillery, Aviation
2. COMBAT SUPPORT: Signal, Civil Affairs, Chemical, Finance, Military Intelligence, Psychological Operations

3. COMBAT SERVICE SUPPORT: Finance, Personnel, Medical, Transportation, Ammunition, Water, POL, Maintenance, Supply, and Field Services.

The echelon above corps designates the corps area of operation (AO) for both defense and offense, and identifies flank, rear, and forward boundaries. The corps normally divides its AO into subareas in which to conduct three basic type of operations:

- Close: Current engagements of its major units;
- Deep: Directed against enemy forces not yet engaged;
- Rear: Operations from the corps' rear boundary forward to the rear boundaries of the committed major units. Most of the corps' CSS units will be in this area.

Corps may conduct offensive operations with main and supporting attacks which require CSS units to be forward and highly mobile on secured LOC's. If there is an exploitation and pursuit, CSS sustainment assets must be as mobile as the maneuver forces they support. POL will be in high demand with captured stocks supplementing the corps' resources.⁵

Defensive operations are either mobile or area oriented with counterattacks and spoiling attacks made to upset the enemy's momentum and initiative. The logistic organization requires a mix of forward deployed and echeloned logistic units to allow for their orderly withdrawal or advance. Emphasis will be on the forward supply of POL, ammunition, rapid evacuation of wounded, and repair as far forward as possible.⁶

Other corps operations which require a tailored logistic response include: counterattack, river crossing, retrograde operation, encirclement of friendly or enemy forces, large-unit movement, reconstitution, passage of lines, relief in place, and linkup.⁷

The logistic capability to support any of these operations is vital. Take, for example, a large unit movement (the entire corps.) With three divisions, an ACR, and supporting troops, it has about 25,000 vehicles. At the normal vehicle interval of 100 meters, the corps would be 2,500 kilometers long. Close and constant coordination at a multitude of functional headquarters is required to solve the problems associated with movement and traffic control, fuel, maintenance and security.⁸

National Logistic Systems

Although many European armies relied on the United States for materiel, equipment, and services during both World War II and Korea, and most still do to a degree, the post-war industrialization allowed European nations to develop their own military industries. With few exceptions, this created a proliferation of equipment and a standardization nightmare. National logistic systems also evolved to meet the specific military needs of each nation. This diversity of equipment and systems is contradictory to the logistic cooperation necessary to field NATO multinational corps. Looking at the corps in AFCENT (those which will constitute the basis for the multinational corps), serves to highlight the problem.

1. NETHERLANDS

a. The Netherlands ships supplies by rail to the Corps Logistic Command (LCC), which is basically equivalent to the U.S. Corps Support Command. The LCC establishes supply points for food, fuel, and ammunition from which the brigades draw their supplies. Divisions are not normally assigned logistic elements.

b. Higher headquarters collects wounded from lower commands. Casualties needing aid beyond the corps capabilities are evacuated to the Netherlands.

c. Equipment requiring more than six hours of work at brigade level is evacuated to corps-level shops.⁹

2. GERMANY

a. The German army logistic system is based on mobile troops and stocks with the corps, and on stationary and some mobile troops and stocks with the Territorial Army (TA). Fourteen standard days of supply are with the corps, the rest are within depots of the Logistic Support Commands (LSC) or with the respective Territorial Command. LSC's bring supplies to the corps and division supply points. Brigades and some units, e.g., artillery, collect their supplies from the division supply points.

b. Medical services within the field army are performed by divisional and corps medical troops. They offer ambulances, transport means and clearing stations/field hospitals on various levels. Medical commands of the TA reinforce the field army, mainly with transport and base hospitals.

c. Each level of command possesses organic maintenance units, backed up by TA maintenance plants and the civilian economy.¹⁰

3. GREAT BRITAIN

a. The Divisional Royal Corps of Transport (RCT) moves supplies from corps-area replenishment parks (RPs) to resupply dumps in the forward area. The goal of this system is to make combat units self sufficient by giving them up to nine days of supply in the main battle area. Deploying units normally carry five days of supplies except tank ammunition (4 days) and artillery ammunition ($1\frac{1}{2}$ days). During the main defensive battle the RCT establishes Immediate Replenishment Groups (IRG) in division areas. Stocks remain on trucks in the IRG for immediate resupply to combat units. Empty vehicles then return to the RP to reload and return.

4. BELGIUM

a. Belgium ships materiel to the Logistics Division of the Interior Forces Command which stores it in depots and equipment parks. This materiel is then issued to corps Logistic Support Battalions (LSB) which establish static or mobile supply points 60-80 kilometers behind the Forward Edge of the Battle Area (FEBA) and support on an area basis. Generally, there are two Corps LSBs for each division; one LSB in the rear and one forward. Divisions do not have an assigned logistic unit, so elements and the LSBs bring the materiel directly to the brigades.

b. The corps operates mobile and semi-mobile surgical

hospitals and a corps-wide ambulance service which picks up evacuees as far forward as possible. Divisions have only aid stations and a medical evacuation capability.

c. Equipment requiring major repair, overhaul, or rebuild is evacuated to Belgium. Divisions perform only minor repairs on equipment.¹¹

5. UNITED STATES

a. At army level and below, CSS management is centralized and execution decentralized. The CONUS supply base is connected to the Theater Army Materiel Management Center (TMMC), Theater Army Area Command (TAACOM), Corps Support Command (COSCOM), and the Division Support Command (DISCOM), in descending order of organizational level. Ammunition is stored and issued at Theater Storage Areas (TSA) in the Communications Zone (COMMZ), Corps Storage Areas (CSA) in the corps rear area, and Ammunition Supply Points (ASP) in the division rear. Ammunition Transfer Points (ATP) are located in brigade support areas and division rear areas and replenished from the CSA. Units draw from both the ASP and ATP. Corps stock its bulk petroleum in field storage bladders or tank farms and moves the POL to divisions. These in turn store and issue POL in bladders or tank trucks and deliver to brigades and other major units. Battalion tankers pick up fuel at the brigade. The CSS system provides all classes of supplies except medical, which is replenished through medical channels.

b. Medical aid stations are operated at battalion level. Evacuees are taken to the division clearing station

and, if necessary, to the corps-level hospitals or aeromedical staging facilities. The COMMZ may provide field hospitals, station hospitals, a general hospital, or an aeromedical staging facility for the evacuation of casualties to CONUS.

c. Maintenance support teams from corps and division are located as far forward as possible to augment brigade and battalion capabilities. Direct support maintenance units provide parts.

National Equipment

The success of NATO's Standardization, Rationalization, and Interoperability (SRI) program has been tremendous. Nevertheless, a survey of equipment with just four of the national corps in AFCENT reflects a problem:¹²

	<u>Germany</u>	<u>UK</u>	<u>Belgium</u>	<u>U.S.</u>
Main Battle Tank	Leopard I/II M-48A2G M-48A2	Chieftain Challenger	Leopard	M-1's M-60's M-48A5
APC/AIFV	Marder M-113A1 M-577 TPz-1	Saxon Warrier Spartan	YPR-765 M-113 Spartan	M-2/-3 M-113 M-577
Helicopter	Alouette BO-105C CH-53G PAH-1 UH-1D	Lynx SA-341	Alouette SE-313 Astazou	AH-64 AH-1S UH-60A UH-1 CH-47 OH-58
Rifle Mach gun	G3A3* MG3*	SA80** GPMG* M2***	FAL* MAG* M2***	M16** M60* M2***

* 7.62 mm

** 5.56 mm

*** .50 caliber

The main battle tanks listed above fire three types of ammunition (120mm gun, 120mm smoothbore, and 105mm), and use two kinds of fuel (diesel and gasoline). They use four types of rifles and six kinds of machine guns with three calibers of ammunition. In fact, NORTHAG's five contributing nations use five kinds of tanks with three different guns; four (and soon to be five) types of attack helicopters firing six types of missiles; five different rifles with two, and potentially three, calibers of ammunition.¹³

NATO Multinational Formations

The diversity of national logistic systems and equipment may be attributable to the parochial belief that the corps are only responsible for their sector; support to adjacent corps is by maneuver, not unit integration. To achieve the NATO goal of maximum standardization and interoperability, therefore, current multinational land forces may offer the best opportunity. If standardization is widespread, then a potential problem for multinational corps is alleviated. An analysis of these NATO multinational models is, therefore, essential.

1. ALLIED COMMAND EUROPE MOBILE FORCE, LAND (AMF-L)

a. Mission and Organization: Formed in 1961, the AMF-L allows SACEUR to signal political resolve via the rapid deployment of a NATO land force to areas particularly vulnerable to aggression and not having large concentrations of NATO forces, e.g., the nations of AFSOUTH and AFNORTH. The AMF-L is represented by seven nations which, when activated, deploy from

their home countries, except the U.S. forces which are already in Germany. The total strength is about 5,000, a brigade sized unit. Its headquarters in Heidelberg, Germany, has a small permanent staff drawn mostly from the nations contributing forces. Those contributing at least a battalion are: Belgium, Canada, Germany, Italy, Luxembourg, the United Kingdom, and the United States.¹⁴

b. Logistics: The logistic headquarters of the AMF-L is a British Logistic Support Battalion (LSB), with a U.S. major as its executive officer. When deployed, the LSB is augmented by host nation forces for coordination purposes. AMF-L national units deploy with their National Support Element (NSE), which is placed under the operational control of the LSB. These NSE's request logistic support through the LSB to their national representative at HQS SHAPE, LOGMAN Division, Exercise Response Cell. SHAPE fills LSB requests by coordinating with national support sources. National channels fill requisitions for food, administrative supplies, barrier materiel, ammunition, vehicles, equipment, and repair parts. Water is obtained from U.S. or U.K. Water Purification Detachments. The LSB contracts for other supplies and services found in the employment area, e.g., fresh fruit and vegetables, meat, dairy products, baked goods, cold storage, industrial gases (for welding), POL, and maintenance services for vehicles and equipment. The LSB pools all NSE-assigned mechanics and wrecker assets. Germany provides a seventy bed field hospital and air ambulances when the AMF is deployed to the AFNORTH area; Italy provides these services

when the AMF is deployed in AFSOUTH. National doctors are assigned to each NSE and usually see patients prior to evacuation to a hospital.¹⁵

c. Logistic problems include:

(1) Standardization: The number and types of dissimilar equipment includes: six recoilless rifles, four wire guided anti-tank missiles, three mortars, three rifles, and three machine guns. The AMF-L is supported by eight different logistic systems, including that of the host nation.¹⁶

(2) Exercises: Once each year, on a set time schedule, the AMF-L deploys to Turkey and Norway. Surprises are minimized by well developed logistic plans, to include resupply requirements and procedures, movements, and host nation support (HNS). Predictably, this inhibits the full exercise of unplanned logistic support at both the national and multinational level.¹⁷

2. ALLIED LAND FORCES SCHLESWIG-HOLSTEIN AND JUTLAND (LANDJUT)

a. Mission and Organization: LANDJUT is the only active multinational corps headquarters in NATO. Formed in 1962, LANDJUT plans the defense of, basically, Denmark and northern Germany. These countries contribute about eighty percent of the corps staff and fill all key positions. The remaining twenty percent is divided among the British, Americans, and Canadians. Upon mobilization, COMLANDJUT expands to one German and one Danish division, plus brigade sized elements from the United Kingdom, the Netherlands, and the United States.

b. Logistics: Planning emphasizes the reception and onward movement of incoming forces. Arriving elements are supported by national logistic systems and HNS agreements.

c. Logistic problems include:

(1) Standardization. Like the AMF-L, there is a multiplicity of equipment and national support systems. Interoperability and compatibility of logistic support between units is, therefore, limited.

(2) Logistic base. There is little, if any, prepositioned materiel for incoming reinforcements.¹⁸

3. FRANCO/GERMAN BRIGADE

a. Mission and Organization: The 4200-strong Brigade was activated in October 1989, as a sign of military cooperation between France and Germany. It consists of a mix of French regiments, German battalions, a mixed German/French Supply Battalion, and one separate German and French company. It is commanded by a French general from its headquarters in Boeblingen, Germany. Command rotates between the nations on a two year cycle.

b. Logistic plans are developed for both a peacetime (garrison) and combat environment. In peacetime, the French rely on the current logistic system of the French Forces in Germany. In war, assuming plans call for the forward movement of the Brigade, the extended French LOCs will necessitate heavy reliance on German HNS for food and water, POL, barrier materiel, some services, and medical support. The Brigade's Supply Battalion has six companies:

- (1) Binational headquarters company
 - (2) Binational medical company (field hospital)
 - with German and French doctors and German dentists
 - (3) German motor transport company
 - (4) German supply company for common user ammunition and POL, plus repair parts and maintenance for German units
 - (5) French maintenance company providing repair parts and maintenance for French units
 - (6) German personnel replacement company to support the German forces
- c. Logistic Problems: The newly formed Brigade has not yet tested its logistic structure under field conditions. The long French LOCs are a problem, but this may facilitate the standardization of those systems requiring German support.¹⁹

NATO Logistics Environment: An Overview

NATO has undoubtedly made progress in its quest for logistic efficiency. Standardized equipment and support systems are becoming more common, civilian emergency planning has made steady gains, and the multilateral support for infrastructure programs is commendable. However, as indicated above, serious problems do exist within NATO's land forces, e.g., nonstandard equipment and systems. If the past is a prelude to the future, NATO's proposed corps structure will also be plagued with shortcomings. But prior to offering solutions, it is prudent to discuss those specific functions which will significantly impact on the success

or failure of the multinational corps.

Standardization, Rationalization, and Interoperability (SRI) is an emotionally charged topic considering the balance of successes and failures. The aim of SRI is to increase the military effectiveness of the Alliance by making better use of the economic resources available for defense. Increased cooperation and the elimination of duplication among Alliance nations in the research, development, production, procurement and support of defense systems and equipment all contribute to this end.²⁰ Since 1952, initiatives were undertaken to correlate production of artillery, small arms, vehicles and ammunition. Numerous books have been written about the subject, a vast number of NATO Standardization Agreements (STANAGS) have been adopted, and institutionalized NATO standardization groups have been formed. Nevertheless, the full success of SRI has been inhibited by:

- a. Reluctance to finance multinational projects;
- b. Security considerations;
- c. Belief that a reduction of competition and incentive will take place when large programs are imposed on the private industrial sector;
- d. Protection of industry and technology base;
- e. Definitions of NATO standards of readiness and combat sustainability.

The lack of a master plan to parcel out production to the most efficient economic sources may be overcome by a series of new international incentives. The French/German developed MILAN

Guided Anti-Armour Weapon, the standard 7.62mm, 5.56mm and 9mm caliber of small arms ammunition, broad acceptance of the Multiple-Launch Rocket System (MLRS), the 120mm smoothbore tank gun, and the 155mm series of artillery ammunition are just a few samples of superb cooperation. The U.S. and European partners spent billions of dollars each in these programs.²¹ The Independent European Program Group (IEPG) harmonizes national equipment needs of the European Alliance members, and there is serious consideration to revive American and Canadian resources within a North American Defense Market.²² Economic inter-dependencies among nations is undoubtedly increasing, as evidenced by a growing formation of economic alliances which further common national goals.²³

Previously, the American answer to SRI has been to arm its allies with U.S. equipment, and then support the equipment with American-furnished training and logistics. The Catch-22, however, is that materiel purchased through the U.S. Foreign Military Sales (FMS) program has a low movement priority in the U.S. military transportation system. The FMS items, therefore, are not guaranteed transportation from the U.S.²⁴ In war, Allies hope to use U.S. overseas stockpiles which, of course, support U.S. national elements first. Nations could use commercial freight forwarders, but their dependability during war is questionable. The net result is that no ally is adequately provisioned for war with respect to American-made weapons, and the U.S. military does not have compensatory stockpiles in reserve.²⁵ Such a one way street is a questionable

solution among Allies and helps foster the rationale for European produced systems.

2. The problems of SRI are compounded by the charter of the NATO Maintenance and Supply Agency (NAMSA). Formed in 1958, NAMSA obtains and consolidates parts requirements, surveys potential vendors throughout the world, and procures parts at the best price.²⁶ Of course, nations deal with NAMSA when there is a clear advantage; there is really no requirement to use NAMSA at all. Nations realize, furthermore, that NAMSA is peacetime oriented and, during a major war, its supply pipelines are likely to dwindle away. Since 40 to 50% of NAMSA's brokerage is with the U.S. FMS program, the problem need not be elaborated.²⁷

3. To coordinate its logistic efforts, the Allied Command Europe has a Logistic Co-ordination Centre (LCC) which, in wartime, "provides a permanent link for consultation and cooperation on logistic requirements between the Allied nations and SACEUR so that his operational decisions can be consistent with logistic capabilities." Associated with the LCC is the Logistics Readiness Centre (LRC), which is a "control organization set up in war to monitor logistic activities, report, and assess logistic preparedness in SACEUR's area of responsibility."²⁸ Despite its charter, however, the LRC is empowered to reallocate resources among national forces only provided the countries owning those resources have earmarked them explicitly for that purpose in LOGSTAR II reports submitted in peacetime once a year. Other than that, the LCC and LRC are without command

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authority; and even if they had such authority, they would be unable to exercise it because of the lack of real-time visibility over national assets. Apart from the annual LOGSTAR II reports, telephone or facsimile/CTR communications, the LCC and LRC are effectively blind.²⁹

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CHAPTER IV
THE NEW EUROPE:
REDESIGNING NATO'S LAND FORCE

The Setting for Change

It can be strongly argued that NATO and the Warsaw Pact (WP) unwittingly interacted as a security balance which produced stable bipolarity in Europe.¹ The concern now is that the economic and social conditions that have made reform and democratization possible in the former WP countries will make it difficult to stabilize the situation in the future. There is a real threat of political chaos in the Balkans, the Baltic region, and within the Soviet Union itself. Unless there is a dramatic improvement in economic conditions, ideological divisions could develop over values (modernists versus traditionalists) and economic strategy (socialism versus free enterprise). If chaotic social, economic and political conditions prevail, there is a real possibility of widespread starvation, movement of a large number of refugees, and even a major conflict. Under these circumstances, it appears that NATO alone unites American and European interests into a system which remains the optimum in terms of European security. NATO has the ability to withstand the implosion of the former Eastern block and the resurgence of old enemies.² Manfred Worner, NATO's Secretary General, summarizes the argument when he calls NATO the guarantor of stability at a time when the Soviet Union and its allies undergo major political changes. NATO, he emphasizes, must maintain a climate

within the new European security system which stresses maximum deterrence with a minimum of weapons;³ one that maintains an adequate defensive system in proportion to the military power retained by the Soviets so as not to risk being victims of the new changes in the East.⁴

The adjustments which NATO must make in the new European order have been clarified somewhat by the Conventional Forces in Europe (CFE) treaty which was signed in November 1990. By 1994, the major weapons systems allowed to remain in Europe include:⁵

<u>Weapon</u>	<u>Alliance</u>	<u>1988 Level</u>	<u>Treaty Limit</u>
TANK	NATO	22,000	20,000
	Warsaw Pact	60,000	20,000
ARMORED VEHICLES	NATO	27,000	30,000
	Warsaw Pact	63,000	30,000
ARTILLERY PIECES	NATO	21,000	20,000
	Warsaw Pact	61,000	20,000
HELICOPTERS	NATO	2,000	2,000
	Warsaw Pact	3,000	2,000
AIRCRAFT	NATO	6,300	6,800
	Warsaw Pact	14,000	6,800

The Soviets plan to withdraw their forces from Germany by 1994, and are negotiating redeployment schedules with their former WP allies. The NATO nations with sizeable land forces are also committed to troop reductions. The United States has already moved half of its European based troops to the Persian Gulf, and large scale unit deactivations are likely when the Gulf War ends.⁶ The recent Soviet military action in the Baltic states, however, makes further speculation regarding NATO/Central

Europe/Soviet troop reductions extraordinarily risky. Prophetically, the London Summit declared the future to be unpredictable regardless of the fact that the threat has diminished substantially.

The reduction in the threat, increased attack warning times, and attempt to maintain Alliance credibility during a period of reduced military budgets and force structure, have allowed NATO to move away from the strategy of forward defense and flexible response. In the future, NATO plans to rely more, but not exclusively, on an integrated force structure which would:

- stress small, highly mobile, multinational corps with national units to give Allied leaders maximum flexibility to respond to a crisis;

- scale back the readiness of active units, reduce training requirements and exercises;

- rely heavily on the ability to build up larger forces if they were needed.⁷

General Galvin, SACEUR, fully supports the idea of a multinational corps. His initial comments on the subject stressed that the corps be:

- based in the central region;

- represented by two to four nations;

- organized around at least one U.S. corps;⁸

- organized with at least three divisions, two of which are in the active component;

- equipped initially with nonstandard equipment with standardized equipment phased into the force over time;

--controlled by a national corps headquarters augmented with personnel from the other participating nations;
--commanded at division level along national lines;
--capable of moving to the flanks for reinforcement;
--sustainable in combat operations.⁹

Realigning the Corps

By combining the comments of General Galvin with the force reductions mandated by the CFE agreement, it is easy to predict the future alignment of NATO corps. They will probably be in the following locations:

1. BALTIC APPROACHES: One corps consisting of the German 6th Armored Infantry Division and the Danish Mechanized Jutland Division.

2. NORTH GERMANY:

a. Forward: One German corps consisting of the GE 1st and 7th Armored Divisions (AD) and the British 1st and 4th Armored Divisions. This assumes (1) the redeployment from Saudi Arabia of the British 1st AD, (2) the withdrawal of the British 3rd AD and the Dutch 41st Armored Brigade from Germany, and (3) the inactivation of the GE 3rd AD and the GE 11th Armored Infantry Division. Earmark the British 3d AD based in the UK for reinforcement.¹⁰

b. Rear: One corps consisting of the Netherlands' I Corps. Earmark the U.S. III Corps with at least the U.S. 1st Cavalry Division, and the 3rd Armored Cavalry Regiment for reinforcement.

3. CENTRAL AND SOUTHERN GERMANY: One U.S. Corps consisting of the U.S. 1st and 3rd Armored Divisions, the U.S. 2nd and 11th Armored Cavalry Regiments, and the German 2nd and 12th Divisions.¹¹ The Belgian I Corps will probably be withdrawn from Germany and reduced in size; what remains may become a mobile reserve.¹²

4. AFCENT RESERVE: A multinational corps formed around the nucleus of the British 2nd Division, Germany's Airborne Division, Belgium's restructured mobile division, the Dutch Commando Battalion, a Canadian Airmobile Battalion Task Force, and a U.S. Airmobile Brigade. Basically, this could be an enhanced version of the ACE Mobile Force with similar missions, logistical structure, etc.¹³

5. IMMEDIATE REACTION FORCE: ACE Mobile Force.¹⁴

6. READY REACTION FORCE (RRF): A multinational corps consisting of U.S. forces in Italy, two Brigades of the Italian Forca di Intervento Rapido (FIR), the Spanish Fuerze de Accion Rapida (FAR), and, possibly, the French Force d'Action Rapide (FAR).¹⁵ Plan on at least ten days to mobilize the RRF.¹⁶

The French role in the future remains uncertain, but this much is known: France intends to withdraw most of its 50,000-man force in Germany by 1995. The 3rd Tank Division (DB) and major combat support elements will be disbanded. The size of the remaining force, which includes troops serving in the Franco/German Brigade, is currently being negotiated between Paris and Bonn.¹⁷

While personnel reductions will probably take place in

all NATO headquarters, the headquarters will remain in place for contingency and exercise purposes. For the U.S., a drawdown at Headquarters USAREUR is almost certain.¹⁸

Likely Contingency Areas

The euphoria caused by the retrenchment of the Soviet Union and the democratization of the former WP countries is being replaced by alarm. The Central Region may heat up again. Aggressive Soviet actions in the Baltic nations as late as January 1991 foreshadow the end of the honeymoon between the Soviets and the West. It is evident that the former WP nations are struggling to meet social demands with a worse than flat economy and are in no position to wage an external war. Internal disturbances may, of course, spill over the international borders, but a major conflict with NATO is unlikely. Soviet military action in Central Europe is also unlikely based on the degradation of a strong central authority, albeit attempts may be made to revert to former times.¹⁹

The Southern Region, which covers Greece, Italy, Spain, Turkey, and Portugal, is characterized more by diversity than by homogeneity. Common identity or multilateral coordination between its constituent members is lacking. In the western Mediterranean, France and Spain do not participate in the integrated military structure, and in the Strait of Gibraltar, the subordinate command GIBMED (Gibraltar Mediterranean Command) is not recognized by Spain. Among all of these nations, only Italy is free of any serious disputes with its neighbors.²⁰

Even before the current Gulf War, the growing consensus in Europe was that future challenges to NATO security would emanate in the South as opposed to the East. Arab countries which border Alliance nations are increasingly anti-Western fundamentalists and pan-Arab nationalists with increasing access to long-range weapons of mass destruction.²¹ The deployment of NATO air forces to Turkey immediately prior to the Gulf War and the active combat support which most major NATO nations have contributed in the Persian Gulf area leave little doubt that the current crisis transcends the confines of just an Arab-American-Israeli problem.

The immediate concern is Turkey. She is situated between the continents of Europe, Asia, and Africa where land and sea lines of communications intersect. She is in a position dominating the Black Sea, the Mediterranean, the Balkans, and the Middle East. She is surrounded by nations with diverse religious, economic, political, and military systems. She is one of two NATO countries that has a common border with the Soviet Union (610 km long). Most of her combat units are infantry whereas her potential adversaries are organized around armored and mechanized infantry.²² An analysis by NATO's Conventional Defense Improvement (CDI) program identified extensive obsolescence of arms and equipment within the Turkish armed forces, along with the Greeks and Portuguese, as one of the most serious deficiencies in NATO's defense posture. Overall, the naval and air posture in the region has improved over the years, but ground forces still lag behind their sister services.²³ Contributions from other NATO nations to improve

Turkey's defense posture has exceeded three billion Dollars but even that is considered inadequate.²⁴ Turkey's share of the NATO infrastructure and commonly-funded activities is also low, reflecting her economic situation.²⁵ Her preparedness to provide wartime host nation support (WHNS) is limited to the use of roads, railroads, and airfields, plus some security, supplies, and labor. Turkey does not provide for seaport or airport reception and clearance activities, cargo movement, engineer, or medical support.²⁶ All of the problems confronting Turkey have been known for at least fifteen years, including the threat from Iraq, but the NATO focus has been on the Central Region--up to now.²⁷

The situation in AFNORTH, although not located in an area as volatile as that which surrounds AFSOUTH, also deserves increased attention. AFNORTH includes Norway, Denmark, the northern tip of Germany (Schleswig-Holstein), and the coastal waters and airspace above them. Plans call for a land-oriented forward defense against a Soviet offensive through Finland or Sweden. CINCNORTH's ground defense forces include the twelve brigades of the largely reservist Norwegian army, the Danish Jutland Division, the German 6th Panzer Division, and smaller mobilization units. AFNORTH, like AFSOUTH, is dependent upon reinforcements to provide a credible defense. These include the 15,000-man Marine Expeditionary Brigade (MEB) which has pre-positioned equipment at Trondheim, in southern Norway. Also earmarked is the UK/NL Amphibious Force (brigade size), and possibly the AMF-L, if not committed elsewhere. To support

these generally light infantry units, Norway provides a 1,000-man WNHS reserve unit, hundreds of vehicles, and exercise areas for practicing contingency plans.²⁸ The more recently formed NATO Composite Force (NCF) is also an enhancement to the defense of Norway. It is envisioned that the NCF will consist of battalion sized units from Norway, Germany, Canada, and the U.S. Norway will also provide both HNS and a mobilizable transport helicopter squadron. To enhance the capabilities of the NCF, according to Major General Arne Solli, the Inspector General of the Norwegian Army, problems associated with the long and dangerous strategic air and sea LOCs must be overcome.²⁹ Additionally, there is a requirement to establish bilateral agreements which will make it possible to prestock heavy equipment and supplies in or close to the projected area of operations.³⁰

Requirements for Change

After having reviewed the logistic lessons of three great wars within the twentieth century, reviewed the contemporary logistic problems within the NATO environment, anticipated both the task organization of land forces and probable contingency areas for force deployments, it is possible to confidently proceed with detailing logistic enhancements for the projected NATO multinational corps. While the multinational corps alignment and organization may differ to those described herein, the differences should be minimal and have no effect on the enhancement proposals.

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CHAPTER V
LOGISTIC ENHANCEMENTS
FOR NATO MULTINATIONAL CORPS

Guidelines

NATO multinational corps will have national divisions; that's already clear. But all other issues are subject to ambiguity. Those seeking to work through the maze of uncertainty in order to subsequently develop corps support concepts, are most likely to pose the following questions:

1. Will the corps headquarters be national, like the arrangement between the VII Corps and 12th Panzer Division?
2. Will the corps staff be integrated like COMLANDJUT?
3. Will the corps command rotate like the Franco/German Brigade?
4. Will the corps be binational or multinational if only two nations participate?
5. Will the nation providing the majority of the forces also provide the preponderance of the Combat Service Support (CSS)?
6. Will there be CSS role specialization for participating nations with their own support commands?
7. Will smaller nations not located in the Central Region provide support units?

The debate regarding these issues continues--cognizant of the focus towards the Persian Gulf--thereby presenting an obvious and very serious dilemma for the author. Nevertheless, the

consensus of those interviewed share the view of AFCENT's Brigadier General Smith. He wants to see, eventually, "a moulding of NATO's forces into multinational formations, a collective rather than a collection of forces, using existing NATO headquarters as the model for corps headquarters integration."¹ With this encouragement, and regardless of the unanswered questions or political acceptability, reasonable suggestions can be offered. The key is the strict adherence to:

- the principles of logistics;
- the avoidance of problems in current multinational formations;
- the avoidance of problems experienced in the three referenced wars.

Using this fundamental base, the anticipated corps organizational structure and employment areas, plus the opinions of a cross section of NATO logisticians, it is possible to delineate logistic enhancement opportunities for NATO multinational corps.

Doctrine

Two fundamental NATO logistic doctrines must be changed. These are outlined in MC 36/2 (Division of Responsibilities in Wartime between National Commander and Major and Subordinate Allied Commanders), and ALP-9, the NATO Land Forces Logistic Doctrine. The first addresses the national control of logistic functions and the second addresses the command relationship of the corps commander and the national logistic units within the corps area. Under MC 36/2, NATO commanders are limited to a

monitoring, coordinating, requesting and recommending role in logistic matters, and reallocation procedures are too cumbersome and restrictive to react quickly enough in certain situations.² ALP-9 states that logistics is a national responsibility unless a NATO commander is specifically authorized by the contributing nations to control individual functions.³ In consideration of a multinational corps, it is recommended that both MC 36/2 and ALP-9 be changed to allow the corps commander full command and control over all logistic units and operational stocks (basic plus sustaining stocks) within the corps without qualification. National lines of stock replenishment, personnel replacements, etc., would remain as it is today subject to the corps commander's reallocation authority without approval from the PSC or any other higher level NATO or national command. These procedures, therefore, must be formalized by NATO doctrine specifically written for multinational corps. No change is required in MC 36/2 pertaining to the circumstances applicable to the assumption of command of territorial forces.⁴

Command

A logistics commander, with the inherent capabilities and responsibilities of command, must control the entire corps' logistic system. Organizing this system has all the attributes of "big business" and requires managerial and leadership ability of the highest order. "Just as land forces are deployed according to a common plan," states Frederick Bonnart, Editor of NATO's Sixteen Nations, "supplies and other logistic tasks also need

central planning and control. A single command system, encompassing all nations and armed services, is therefore essential." He goes on to recommend that the nation having the largest national contingent should set up the command arrangement.⁵

In a multinational setting with a divergence of logistic systems, only a logistic commander can ensure the efficient operation of the corps support base (principle of economy), and reduce the probability of confusion (simplicity). Only a logistic commander can direct similar but separate logistic organizations towards a common goal (cooperation), and direct immediate logistic changes based on the commander's assessment of the combat situation (flexibility). Accurate and timely logistic information is required (intelligence), and its expectations understood (objectivity). Finally, improvements to the system must be responsive to scientific breakthroughs (generative logistics).⁶ Only the exercise of command over the multiple logistic systems within the proposed corps allows the massing of the necessary assets when and where necessary.⁷

Keep in mind that the defunct "layer cake" alignment of national corps allowed logistic support to follow reasonably neat tails to respective national supply sources and systems. CSS for other national forces integrated into these corps was defined in localized bilateral agreements, ad hoc, or followed MC 36/2 or ALP-9 guidelines. In a multinational corps, the old procedures will not work.

Control

The office of the G-4, the logistic command headquarters, and functional staff elements in the logistic command should be integrated with individuals representing all nations. Additionally, a Logistic Coordination Center (LCC) should be established under the staff supervision of the G-4 to handle multinational issues. The LCC would monitor and report the logistic capabilities, requirements, excesses, shortfalls, and logistic discipline within units of their represented nations. Key members of the G-4 and the LCC should:

--Have a working knowledge of the language of the nation commanding the corps. English, however, is the common language in accordance with NATO standards.⁸

--Be assigned to their multinational billet in peacetime to facilitate the functioning of the corps logistic systems during war.⁹

--Be knowledgeable of the logistic systems and equipment of the other represented nations.¹⁰

--Facilitate logistic support to other national divisions.

--Be the intermediary between their national division and national logistic base when an echelon above corps does not perform this function.

--Be cognizant of Host Nation Support (HNS) capabilities and be able to contract, procure, and coordinate civilian or military HNS resources in accordance with the corps needs.

--Be operating with clear and easy to read standard operating procedures.¹¹

The problems inherent with an integrated staff include the prejudices and suspicions fostered by cultural differences and national loyalties. While English is the accepted language, some individuals may not be fluent. A few leaders may have to compromise their own high standards since "Leavenworth quality" will be unreasonable to attain, particularly in written staff work. Pay differences coupled with the levels of responsibility are also factors. But once the team is formed and malcontents eliminated, the cohesiveness and responsiveness of the corps staff should be satisfactory.¹²

Training

Contributing nations should offer cooperative education programs at both officer and enlisted level. This cross-fertilization of education in national logistic systems other than one's own can only intensify the bond of multinationality. Another possibility, but one which necessitates the allocation of real estate and ancillary services (utilities, guards, etc.), plus a staff (teachers and administrators) is to establish a NATO logistic school for all ranks. The curriculum should, at a minimum, include the following subjects:

- NATO logistic organization and principles;
- Logistic principles and systems of the nations within multinational corps;
- Coalition staff organization and functions;
- NATO reallocation procedures (for material and units);
- Host nation logistic support programs.

The course could be modeled on the United Nations Logistics Course (UNLOC) for enlisted personnel and the United Nations Staff Officers Course (UNSOC) for officers.¹³ Adequate school facilities and student housing should be available at military installations affected by troop reductions, but not subject to closure. The annual number of courses would depend on the anticipated student population and course length. Individuals assigned to the corps should attend the course prior to, or within six months after assignment. Funding for utilities, administrative staff, housekeeping, etc., would follow normal procedures for NATO schools, e.g., the NATO Defense College in Rome.

An annual Logistic Command Post Exercise (LOGEX) should be conducted involving logistic staffs of the corps, assigned divisions, earmarked units, and applicable logistic echelons above corps. This would obviously foster familiarity of the various national systems during peacetime and enhance the overall corps logistical efficiency during war.¹⁴ SOPs, Allied Tactical Procedures, and schools are good, but nothing can replace a well managed exercise. Staffs at the various NATO headquarters should organize the CPX. Facilities at bases currently being reduced, but not closed, should also be available. Possibly, the CPX could be conducted at the proposed school using the instructors as CPX controllers during a time when the school is not in session. In summary, the priority training opportunity is an exercise and should be resourced prior to the school.¹⁵

Staff Operating Procedure: An Overview

Divisions continue to receive support through national logistic systems, e.g. COSCOM and higher for a U.S. division. COSCOM reports shortfalls to the national support element (NSE) at the LCC. In turn, the NSE reviews, coordinates, and, when necessary, seeks approval from the corps G-4 to coordinate, and, if necessary, to direct the required support from other corps resources. The LCC then directs the transfer of stockage, equipment, manpower or services to solve the immediate problem until a more permanent fix comes through national channels. For instance, if an American shortage is 120mm and a request is made to the LCC for more, the LCC reviews the request, screens the corps-wide resources, and recommends to the G-4 the course of action. Upon approval from the G-4, the LCC directs the transfer. The LCC must be cognizant, of course, of current and projected corps operations and potential requests from neighboring or transiting corps who may also have real or projected shortages due to the combat situation.

Stockage Levels and Storage

Nations should provide a minimum of 30 days logistic sustainability stockage to their units.¹⁶ The build-up of stockage since 1977 at prepositioned sites in Europe plus the current drawdown of national forces would indicate that applicable storage sites and materiel is reasonably available to do this, particularly in the Central Region. Sustainability stockage must include ammunition, POL, combat rations, selected medical supplies,

barrier materiel, some tools and test equipment, select repair parts, plus some materiel handling equipment (forklifts). These sites would be used by the Immediate Reaction Force (AMF), RRF, or corps advance combat elements. Stockage located in or moved into the corps area of operation is under control of the corps commander and is distributed in accordance with predeployment plans which consider equipment density, missions, etc.

The necessity to quickly reinforce the nations of AFNORTH and AFSOUTH creates an extremely complex movement issue. The speed of the corps' deployment and its combat effectiveness is directly proportional to the availability of materiel in the area of operation. Three reasonable solutions are: (1) move it from Europe or North America when required; (2) preposition it on land in the contingency area; (3) preposition it at sea.

The first option is not viable for the high mobility corps described in the London Declaration. The other two options deserve more attention.

1. PREPOSITIONING ON LAND: This idea is a natural adjunct to a power-projection strategy; a reaction force is deemed more credible if it can move and arm itself quickly. Examples of this strategy are abundant. In the Central Region (CR), Prepositioning of Materiel Configured to Unit Sets (POMCUS) has risen to nearly six division sets of equipment. Major end items include M1A1 tanks, Bradley Fighting Vehicles, and MLRS. Plans have been developed by the U.S. to base in Europe by 1994 six general hospitals, representing 6,000 beds.¹⁷ Large ammunition stockpiles have also been positioned throughout the CR. Regional Stock under CINCSOUTH

Control (RSCC program) places a designated quantity of battle-decisive munitions under the control of CINCSOUTH. It allows the CINC to influence the early outcome of any potential crisis or conflict in his area of operations. Transportation, operation, and maintenance costs for this program are a NATO shared responsibility.¹⁸ In AFNORTH, Norway has concluded a number of agreements which provide for substantial prestocking of ammunition, fuel, heavy equipment, and spare parts for Allied forces. Norway also prepositions equipment for a U.S. Marine Amphibious Brigade.¹⁹

The objection of prepositioning, i.e., that the target is soft and subject to pre-emptive air or land attack, is valid. However, the vulnerability of ocean transportation, high cost of air movement, and security concerns for both rail and road nets from ports of debarkation, lend credence to the advantage of prepositioning in forward areas.

It is recommended that prepositioning on land be emphasized more in the Northern and Southern Regions, and particularly the latter, based on both the current violence in the area and uncertainties even after the fighting stops. Recommendations for stockage include: unit sets of equipment (POMCUS), combat rations, packaged POL, concertina wire and pickets, ammunition, a corps-level medical resupply kit, blankets, litters, additional forklifts, trucks, and associated repair parts.²⁰ The stockage should be maintained, guarded, and when necessary, moved by host nation transport assets to designated locations within the NATO corps operational area upon direction of the applicable NATO commander. In Turkey, the capability to move the stockage, let alone receive

and process the bulk of the corps, is questionable.²¹

2. MARITIME PREPOSITIONING: The advantage of maritime pre-positioning, which is an augmentation of land based prepositioning, is that it allows SACEUR the flexibility to methodically redistribute equipment and materiel to any area in which the probability of NATO power-projection is deemed highest. Using the Gulf War as an example, the Army's four prepositioned ships at Diego Garcia allowed the Americans to have in theater the equipment required by the air transported troops--with efficiency far exceeding that experienced in World War I, World War II, Korea, and Vietnam.²² The purchase in the early 1980's of eight SEALAND container ships and their conversion to a vehicle roll-on/roll-off configuration facilitated the deployment of several divisions from the U.S. to the Persian Gulf. For NATO, it is recommended that items similar to those prepositioned on land be placed on small, preferably self-sustaining vessels (cognizant of limited port capabilities in forward employment areas), for at least one armored brigade, possibly the advance element of the RRF.²³ With the current draw-down of NATO forces and ancillary stockage, plus the CFE allowance to store quantities of tanks and artillery, only materiel handling and ship related costs are projected for maritime prepositioning in the short term. It is further recommended that the nations most likely to receive the ships (Turkey and Norway) accept responsibility for the stevedoring, port clearance, and land transportation as far forward as the corps rear area or designated logistical support base. Denmark and Italy, who are not projected to provide land forces for the corps, are candidates for providing

the vessels and berthing facilities.

Movement

The strategic movement of the corps is predicated on the availability of aircraft and ships. The aging fleet of C-130/C-160s which dominates Europe's military airlift operations must be replaced. NATO's Conventional Army Planning System supports the IEPG initial finding that the Future Large Aircraft (FLA) would meet potential NATO requirements for a transport aircraft having a 100 ton maximum take-off weight (MTOW). The U.S. C-17, with a 250 MTOW, is a candidate for the heavy lift requirements.²⁴ Ships for strategic sealift should be small, self-sustaining vessels capable of berthing at key ports in the receiver nations.

The corps will probably not deploy with sufficient water or airport clearance capability, i.e., stevedores, trucks and drivers, etc. It is also doubtful that the indigenous support services can concurrently meet the military and civilian needs, especially in Turkey. It is recommended, therefore, that AFNORTH and AFSOUTH determine and coordinate for resolution the movement shortfalls for a corps (size to be determined) deploying into their region.

Movement control for both strategic and tactical movement cannot be overemphasized. Close coordination between deployment and employment ports is imperative to preclude port congestion and to facilitate port clearance in the AO by highway, rail, and air transportation. Corps movement control, cargo documentation, and materiel management teams must be flown into the AO early to

expedite the onward movement of cargo, particularly those items requiring priority airlift. The Southern European Transportation Organization (SETO) should facilitate the movement planning efforts with the potential host nations, SHAPE, and the corps.

Air Resupply

The need to quickly move high priority cargo to a deployed force is well documented in Chapter II. As late as 1989, the U.S. Air Force moved priority cargo throughout Europe by using eighteen twin-engined light transport aircraft stationed at Zweibruecken, Germany. The unit was deactivated as a result of the drawdown of U.S. forces in Europe.²⁵ In Saudi Arabia, the U.S. operates the "Desert Express," a C-141 cargo plane which arrives daily from the U.S. Its priority cargo is loaded on trucks at a Saudi airbase and moved directly to the requesting unit.²⁶

To airlift the corps' priority cargo, it is proposed that one or two nations accept this mission in a role specialization context. Airlift requirements generated by the corps would be processed through applicable movement control and materiel management channels to the respective airlift element. Portugal and Spain, who have not committed land forces for the corps, are candidates for this mission.

Standardization

It is recommended that specific equipment, materiel and systems within the corps be standardized. Participating nations would, of course, have to agree to the division and time-phase

plan. An example of corps standardization is:

<u>Equipment</u>	<u>End of Year One</u>	<u>End of Year Two</u>
Main Battle Tank	two or less	one
Tank Ammunition	120mm smoothbore	
Tank Transporter	two or less	one
Rifle ammunition	7.62	
Observation helicopter	two	one
Corps CSS SOP	final	

The corps CSS SOP must address, at a minimum, the delegation of authority over national CSS assets within the corps, role of the LCC, coordination procedures with all logistic echelons above corps (particularly strategic movement authorities), reallocation policies and procedures for materiel and service units, stockage factors (days of supply), and safety levels.

Role Specialization

In the interest of command, control and standardization criterion, the number of nations fielding combat or CSS units in any one corps should be minimized. Nations not providing land forces should provide strategic lift and military HNS. For the latter, the corps commander should have the authority, through bilateral or NATO standardized procedures, to control the HNS CSS units in the corps AO when it is in his best interest, e.g., motor transport and terminal service units.

The following recommendations for role specialization are

offered based on perceived capabilities and national will.

<u>Functional Area</u>	<u>Contributing Nation</u>
Passenger aircraft	Belgium, Norway, Portugal, U.S.
Cargo aircraft	Portugal, Spain, U.S.
Cargo ships	Denmark, Germany, Greece, Italy, Norway, U.K., U.S.
Prepositioned stockage sites	Germany, Norway, Turkey
Deployment HNS services	Belgium, Germany, Luxembourg, Netherlands
Employment area HNS services	Norway, Turkey

Host Nation Support (HNS)

As indicated above, HNS is a logistics multiplier, but adequate HNS agreements, particularly in the Southern Region, have not been negotiated. By comparison, in the Central Region, Germany provides medical clearing stations, hospitals, vehicles, etc. Over 150,000 civilians support the U.S. alone during wartime. This represents a cost avoidance of about 578 million Dollars. Germany saves the U.S. about ninety percent of what it would have cost to maintain the corresponding reserve units and about ninety-eight percent the cost of deploying these units to Europe. And Belgium allocates 15,000 civilians to support LOC operations in their country. In turn, Turkey allows the use of her transportation facilities but does not provide movement assets. Norway provides limited transport service, including a transport unit, but neither that country nor Turkey provides

medical services.²⁷

It is recommended that the HNS agreements used in the CR, which have been in effect for many years, form the basis for the HNS agreements required elsewhere. Specific functional areas include:

- Sea and airport reception and clearance;
- Motor transportation (especially in Turkey);
- Movement regulation, to include traffic and refugee control;
- Emergency medical services to include hospitalization;
- Procurement and contracting capability for skilled and unskilled labor, water, perishable and nonperishable food, petroleum products, industrial gases, utilities, cold storage, ammunition storage, motor, barge and inland water transportation, equipment maintenance and maintenance facilities, and laundry and bath services. Since fuel alone constitutes two-thirds of the supply requirements by weight, it is the single largest commodity which must be transported. Considering the extended sea and, in the case of Turkey, land LOCs, HNS must be a priority for its purchase and transport.

Finally, the HNS plan must be exercised regularly with reinforcement units--or at a minimum under Command Post Exercise (CPX) conditions--to validate and refine the logistic plan.

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CHAPTER VI

CONCLUSION

The demise of the Warsaw Pact, the decline of the Soviet empire and the end of the Cold War are some of the most dramatic developments of the twentieth century. Implementation of the Conventional Forces in Europe (CFE) treaty has reduced weapons systems, and democracy is taking root in former communist strongholds. By contrast, uncertainty is evidenced by the aggressive Soviet stance towards the Baltic states, civil unrest in Yugoslavia, plus an unstable economic and social climate in Eastern Europe and the Soviet Union, not to mention the Gulf War. The situation is a strong argument for the continuation of the Alliance as a guarantor of European security.

The London Declaration applauded the advent of a new era but prefaced the contemporary view with a strong and well deserved warning. The future, it cautioned, is a fluid and unknown entity for which prudence dictates a conservative approach. Cognizant that the NATO charter was written during a time when it appeared that the world was being consumed by communism, the London Summit tries to hold the Alliance together during the current mood of mass euphoria. One element of this strategy is the establishment of NATO multinational corps. The idea serves to maintain the concept of shared risks, roles and responsibilities among the member nations while lowering the cost of fielding active land forces. Heavy reliance is to be made on the corps' mobility and the activation of reserve forces when

and if they are needed.

Multinational land forces now in NATO are small, quick reaction forces, e.g., the ACE Mobile Force (AMF) and the NATO Composite Force. The Allied Land Forces Schleswig-Holstein and Jutland (LANDJUT) constitutes the only active multinational corps headquarters, although the 12th German Division comes under the U.S. VII Corps in wartime. A review of the AMF-L, LANDJUT; and the Franco/German Brigade highlights logistic weaknesses, to include doctrinal guidelines, which must be overcome if the corps described in the London Declaration have a chance of success.

The most glaring problems which must be overcome are standardization and command authority. The former is addressed throughout the NATO logistic community, but logistics doctrine and bureaucratic intransigence have prohibited any reasonable solution. In a multinational corps environment, the failure to resolve this dichotomy will leave the newest NATO initiative in the rubble with the Plevan Plan: it will make "multinational corps" another flashy expression exhibiting more show than substance.

To put some bite into the corps, the equipment must be standardized at the troop fighting level to the maximum extent possible using firm directives and timelines for implementation. Standardization is required to sustain logistic support during combat and to facilitate the integration of earmarked forces and unit reconstitution efforts. Maritime and land-based pre-positioning of standardized equipment and supplies must be used

to enhance deployment and combat sustainability. Additionally, the Conventional Armaments Planning System must have a more effective role in aligning national armaments programs with Alliance standardization requirements. The donations of standardized ammunition for the regional stocks under the CINCSOUTH Control (RSCC) program needs to be completed, and the NATO Maintenance and Supply Organization (NAMSA) must be responsive to the corps' repair parts needs during wartime.

The corps commander should exercise his logistic authority through an integrated staff fully trained in coalition logistic principles and procedures. The commander must also have delegated, at some point in the NATO alert cycle, command authority over all logistic resources in his operational area, to include equipment, supplies, and units--less the territorial forces. National logistic systems will still support their national divisions, subject to the corps commander's delegated authority over these systems during emergency conditions. This delegation of authority must be formalized in NATO doctrine, specifically MC 36/2 and APL-9.

The corps must rely on strategic air, sea, and host nation land transport services to move them to the employment areas.¹ The nations executing these transport missions may have no ground forces in the corps, but they will, nevertheless, perform tasks which directly impact on the corps' mission.

The corps will most likely be deployed in the Northern or Southern Regions. If committed to battle, combat will last longer than has been anticipated in the past; no longer will

the threat of nuclear weapons hinder the escalation of a conflict. By relying heavily on strategic air and sealift for movement, NATO must be prepared to sustain a force over long and potentially dangerous lines of communications.

It is no wonder that NATO logisticians rarely smile. They must prepare logistic support concepts for multinational corps whose composition, general support structure, and deployment systems have not been formalized. To facilitate their planning efforts, I hope to have presented several ideas which are viable and acceptable. It is understandable that funding constraints or political resolve may, of course, limit the scope of acceptance; the differentiation between desirability and acceptability has been carefully avoided.

It must also be noted that I do not advocate nor discredit the idea of multinational corps, but rather take the London Summit at face value, i.e., NATO's preference to create this type of organization. Furthermore, the research has not been prejudicial towards or against one or a block of opinions but rather presents honest and professional ideas from a relatively large cross section of logisticians. Not all individuals giving input to the study agree with all of the recommendations contained herein; but most individuals agree with the main ideas. Everyone understands that the adoption of all of the recommendations is too optimistic; adopting none guarantees a hollow force unable to sustain itself in combat.

ENDNOTE

1. David S. Sorenson, "Getting Back to Europe, Strategic Lift Needed More Than Ever," Parameters, Vol. XX, No. 2, July 1990, p. 72.

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